REMARKS

The Examiner has rejected Claims 1, 17, 33, 34, 39 and 44 and the intervening claims under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. Applicant has, in part, clarified such claims to avoid such rejection. Specifically, applicant has deleted "traversing the hierarchical parse tree to retrieve each suspect string and" from each of the independent claims.

Furthermore, with respect to the Examiner's rejection of applicant's claimed "data file defining macro virus attributes for known macro viruses that each are comprised of at least one macro," applicant respectfully asserts that the "comprised of a macro" language is inherently disclosed. Specifically, when read in the context of the following well-known definition of a macro virus, it is clear that such claim language is inherently disclosed:

> "A type of computer virus that is encoded as a macro embedded in a document. Many applications, such as Microsoft Word and Excel, support powerful macro languages. These applications allow you to embed a macro in a document, and have the macro execute each time the document is opened."
> (http://www.webopedia.com/TERM/m/macro_virus.html)

The Examiner has rejected Claims 1-44 under 35 U.S.C. 103(a) as being unpatentable over Chen et al. (U.S. Patent No. 5,951,698) in view of Chen et al. (U.S. Patent No. 5,960,170) hereinafter referred to as Chen. Applicant respectfully disagrees with such rejection, especially in view of the amendments made hereinabove to each of the independent claims. Specifically, applicant has incorporated the subject matter of dependent Claims 14 and 16 et al. into each of the independent claims.

With respect to each of the independent claims, the Examiner has relied on Chen et al.'s disclosure of "a data table including exemplary sets of instruction identifiers which are stored in the virus information module 308" and "the decoded macro is scanned to determine whether it includes a combination of suspect instructions as identified by the instruction identifiers" (Col. 14, line 52-Col. 15, line 67) to meet

applicant's claimed "sets of the indices and the macro virus definition data files being organized into a hierarchy according to macro virus families based on a type of application to which the macro applies" (see this or similar, but not identical, language in each of the foregoing claims).

Applicant respectfully asserts that Chen et al. fails to meet applicant's claim language since it clearly fails to teach the "hierarchy [is organized] according to macro virus families based on a type of application to which the macro applies." The data table of Chen et al., as depicted in Figure 9 and referenced by the Examiner, is not based on a type of application which the macro applies, but instead is based on instruction identifiers. Specifically, Chen et al. merely shows that the rows correspond to instruction identifiers and the columns correspond to instruction identifier numbers, text and corresponding hexadecimal representations of the binary code for the instruction identifiers (see also Col. 15, lines 1-6), and not "a hierarchy...based on a type of application to which the macro applies" (emphasis added), as claimed by applicant.

Furthermore, the Examiner has also relied on Chen to make a prior art showing of applicant's above mentioned claim language, specifically "the sets of the indices and the macro virus definition data files being organized into a hierarchy according to macro virus families based on a type of application to which the macro applies." Applicant respectfully asserts that the excerpts from Chen relied on by the Examiner simply disclose "a program for accessing the file header for each file...comparing the file header to predetermined data to determine whether the file is of a type that is likely to contain a virus, and maintaining an identification of those files" (Col. 18, lines 16-27) and "[o]ne way that the amount of data to be transmitted from the virus detection server 400 to the client 300 is minimized is that only those virus signatures that could be expected according to the gathered information about the assessed scope and risk from previous stages" (Col. 19, lines 15-30).

Applicant respectfully asserts that determining types of files that are likely to contain a virus for future scanning such that the amount of data to be transmitted from the

virus detection server to the client is minimized simply does not meet applicant's claimed "sets of the indices and the macro virus definition data files being organized into a hierarchy according to macro virus families based on a type of application to which the macro applies." Specifically, Chen clearly fails to mention utilizing any hierarchy system for organizing "sets of indices and the macro virus definition data files," let alone where the hierarchy is organized "according to macro virus families based on a type of application to which the macro applies" (emphasis added).

In addition, the Examiner has relied on Chen's disclosure of "iteratively scanning all targeted files for the relevant string portions to progressively narrow the number of viruses that could reside in the targeted files" (Col. 13, line 44-Col. 14 line 31) to make a prior art showing of applicant's claimed "parser parsing a suspect file into tokens comprising one of individual string constants and source code text and storing the tokens as suspect strings into a hierarchical parse tree" (see this or similar, but not identical, language in each of the foregoing claims).

Applicant respectfully asserts that Chen simply teaches scanning targeted files to determine whether they include relevant string portions. The only parsing associated with Chen involves parsed virus signatures (portions) that are compared to an entire file. In addition, scanning an entire file in such a manner as to progressively reduce the number of viruses a file is scanned for *teaches away* from applicant's claimed "parsing a suspect file into tokens comprising one of individual string constants and source code text" since a file could not be scanned as a whole unit if it was parsed, as claimed by applicant.

Furthermore, Chen does not teach "storing the tokens as suspect strings into a hierarchical parse tree," as claimed by applicant, since Chen teaches continuously scanning the entire file for progressively reduced virus signatures, and not that any portions of the file are ever stored in the manner claimed. Chen only discloses "using this result [whether a specific string portion of a virus definition has been found in the file] to produce a second virus detection object" (Col. 14, lines 6-8). Thus, only the

reduced possible viruses in the file are stored in a new object and not "suspect strings" in the context claimed by applicant. In the same manner, Chen also does not teach storing the suspect strings "into a hierarchical parse tree" (emphasis added).

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant's disclosure. *In re Vaeck*,947 F.2d 488, 20 USPQ2d 1438 (Fed.Cir.1991).

Applicant respectfully asserts that at least the third element of the *prima facie* case of obviousness has not been met, since the prior art references, when combined, fail to teach or suggest all of the claim limitations, as noted above. Nevertheless, despite such paramount deficiencies and in the spirit of expediting the prosecution of the present application, applicant has substantially incorporated the subject matter of Claims 14 and 16 et al. into each of the independent claims.

With respect to Claims 14 and 16 et al., the Examiner has relied on Chen et al.'s disclosed "macro locating and decoding module 302 includes routines which initially determine whether the targeted file include a macro by determining in step 505 what type of file it is" (Col. 12, lines 8-11), a "macro virus scanning module 304 [that] accesses decoded macros in the data buffer 312 and determines whether they include known virus signatures" (Col. 13, lines 10-12), and "macro instructions from the targeted file [that] are located and decoded into binary code for analysis...[t]hus, the comparison data which is obtained 615 from the virus information module 308 may respectively include the binary code for the first and second instructions...to identify the first and second instruction in the macro from a targeted file" (Col. 14, lines 25-36).

Applicant respectfully asserts that Chen et al. completely fails to even suggest applicant's claimed "macro virus checker parsing macro virus attributes from one or more file objects and analyzing the macro virus definition data files by index for each macro virus family" (Claim 14 et al. - emphasis added) and "macro virus checker iteratively retrieving each macro virus definition data file using the index for each macro virus family and providing the macro virus attributes defined in the retrieved macro virus definition data file" (Claim 16 et al. - emphasis added).

Chen merely teaches "[a] unique binary code [that] also corresponds to suspect instructions" such that a specific macro virus enablement instruction has a particular corresponding binary code, as does a certain macro virus reproduction instruction (see Col. 14, lines 28-31), such that particular binary strings are used as an identifier for detecting a plurality of different suspect macro instructions (Col. 14, lines 47-50). Simply nowhere in Chen et al. is there any teaching of utilizing an index in the context claimed by applicant, since Chen does not teach that such particular binary strings are indexed in any manner such that the index is utilized in scanning for macro viruses.

Since at least the third element of the *prima facie* case of obviousness has not been met, a notice of allowance or a specific prior art showing of all of the claim limitations, in the context of the remaining elements, is respectfully requested.

Thus, all of the independent claims are deemed allowable. Moreover, the remaining dependent claims are further deemed allowable, in view of their dependence on such independent claims.

In the event a telephone conversation would expedite the prosecution of this application, the Examiner may reach the undersigned at (408) 505-5100. The Commissioner is authorized to charge any additional fees or credit any overpayment to Deposit Account No. 50-1351 (Order No. NAI1P373/99.111.01).

Respectfully submitted,
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